THIS WEEK AT THE THRATERS.

Only one new spoken play is promised for this week, and we shall not get it until Saturday night. It is a facetious piece called "The Case Rebellious Susan," by Henry Arthur Jones, whose works hitherto have been entirely serious. As it is to be acted at the Lyceum by nine approved members of Daniel Frohman's company and two promising recruits, the fun of Mr. Jones's work is bound to have a good chance to reach the audience. Until then "The Amazons"

will be continued. A silent play, except for its musical accompaniment, will be performed at the Eden Musée to-morrow. It is entitled "A Dresden Shepherdess," and will be acted by Mme. Pilot Morin, her little son Edmond, Mile. Sereria, M. Pizzarello, and M. Williams, Mme. Pilar-Morin will again be seen as Pierrot, but in an entirely new pantomime. Vance Thompson and Aime Lachaume are responsible, respectively, for the

action and accompanying music.

The assignment of actors to "Esmeralda" by A. M. Palmer at his theatre has been such as to revive that twelve-year-old comedy entertainingly. The piece may belong to the kinder-gard e stage of American playwrights, but it has a charm of simplicity, humor, and pathos, nevertheless. This is the last week of it. "The Fatal Card" is to ensue, with a remarkable east and doubtless correspondingly good ap-

A change from "Love on Crutches" will be made at Daly's on Thursday, when "The Taming of the Shrew" will be revived. The role of Katherine may well be regarded as best suited to Ada Rehan among the hundreds of parts which she has acted in her long career. The motably fine embellishment of the earlier pro-ductions of this comedy will, of course, be used again. A few alterations in the old cast will increase the interest.

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The monetary success of a drama is proof only that it attracts the public, and not that it possesses qualities to be praised for intrinsic worth; but when Mr. Frohman gives his word that the receipts of "The Masqueraders" thus far are larger than those of any previous play at the Empire, it means that the piece is astisfactory to discriminating audiences, because that theatre derives its support from the more exacting sort of people.

To no theatre may one go with more certainty of the character of the entertainment than Harrigan's. The title now happens to be "Notoriety," and the play is only three weeks old, yet Mr. Harrigan, Mrs. Yeamana, Mr. Wild, and a dozen others are doing there the same kinds of funny things they have done for years. It must not be inferred, however, that "Notoriety" is a rehash of previous plays in the Harrigan series. On the contrary, its comic incidents and its Braham songs are entirely fresh and original.

One of the many London dramas with British

dents and its Braham songs are entirely fresh and original.

One of the many London dramas with British troops in them is "Youth," which once had a loud echo here of its native success, and is now to be brought forward at Niblo's by Walter Sanford's stock company. It is said to have been cast strongly and fitted out with new scenery. Much is to be made of the military scenes by crowding the big stage with soldiers.

The scarcity of new theatrical matters this week does not mean any lack of excellent entertainment, and people seeking amusement for Christmas need not go far to find it exactly to their tastes. Afternoon performances will be given on the holiday, and all the dulness of the past week may be expected to give way to brightness in theatricals.

The play chosen by Mr. and Mrs. Kendal for the opening of their season at Abbey's is the late Tom Taylor's "Lady Clancarty." It has not been acted in this city within a dozen years or more, and is comparatively unknown to the rising generation. Mr. and Mrs. Kendal used to appear in it when they had a theatre in London. It is a rather brilliant play of the seventeenth century, and possesses more of the elements of surprise, suspense, and genuinely hu man interest such as we demand nowadaysbrought into English from French and German

than was common to the works which Taylor brought into English from French and German sources. The Kendals have been presenting it in Chicago, where the critics praised them and the manner of the production.

Rose Coghian will alternate "Diplomacy," "Forget Me Not," and "London Assurance" at the Star. Each of those piays contains a rôle in which Miss Coghian has distinguished herself, and none of the characters is at all like either of the others. Her company should be able, with the requisite preparation, to afford good support to her. A scenic reaewal of "The Old Homestead" is ready for next week at the Star. A cenewal of "Claudian" will be effected by Wilson Barrett at the American. That picturesque melodrama was generally regarded, when seen here before, as a very ambitious and rather impressive affair. The rôle written in it for Mr. Barrett brings out his merits, and leaves out his faults, to a greater degree, perhaps, than any other part in which we have seen him. The brave show of Homan scenes will make an enjoyable spectuale. Henearasis of "The Diatrict Attorney" have begun at this theatre.

The change at the Harlem Opera House is to "The Flams," which we had downsown for a month. Needless to say, William Hoey goes along with the farce. So do the consedians, dancers, and singers who have helped him to give a show of contemporancous hilarity. A pieco in the current vein of melodrams, which has been seen on the west side of the town, is entitled "The Man Without a Country," and it goes to the Bowery for a week at list leopies. It is not a dramatization of Dr. Pale's familia very him the same title but is a rough distinct depiction of life and adventures in Georgia is war times. It contains a regarded who tickles people by presenting a ledicrous type of active, locuacional stenes.

is a rough, distinct depiction of life and adventures. In theoreta in war times? It contains several sensational scenes.

A comedian who tickles people by presenting a brdierous type of active, loquacious irishman is Robert Gaylor twho has commendably risen above the babit of billing himself "Bobby"), and the Harken Columbus has him in "Sport McAllister." That is the farce in which he achieved popularity with congenial andiences, and nobody can deny that he makes them laugh. The play that changed the late Hartley Campbell's fortune as an author from bad to good was "My Partner," with its straightforward, appealing story of love and sacrifice. Louis Aldrich was its heroically sentimental miner when it was first successful, and he will be again at the Grand Opera House, where it is a revival that deserves not to be overlooked.

Comic opera goes from Broadway to Brooklyn is the shape of "The Grand Duchess," the transfer from Abbey's to the Columbia including everything that belongs to the production, from Lillian Russell at the front to the smallest scrap of scenery at the carry went far to retrieve Miss Russell's season from the misfortune of "The Queen of Brilliants."

Christmas week finds the variety shows bris-

Christmas week finds the variety shows bris tling with novelties. To Proctor's continuous show comes an accomplished midget from abroad, whose age is given as eighteen, height as pounds. Susie Kirwin's operetta, "Penelope" (adapted from the old farce "The Area Belle"), is continued, and there will be some new living pictures. These are the specialists retained: Mile. Carlini and her performing dogs and mon-keys, Ed Clarence, Brennan and Wheeler, Bogert and O'Brien, Mabel Van, Burt and Bennett. George Gaskin, the Paynes, Miller and May, Kissell, Walter Deaves, Scanlon and Kilroy, Helen Conklin, and Cooper and Stewart.

The Finneys' aquatic performance constitutes the chief specialty in the Union Square all-day programme, and such well-known names as Bunth and Rudd, Gilmore and Leonard, and Lester and Williams are also included. These performers are also employed: Harding and Ah Sid, R. M. Carroll, Jessie Miller, Osten's Marionettes. Thorne and Carleton, Oakland and Thompson, the Collins brothers, Ladel and Alvarez, the Dunbars, Carmanelli and Lucille,

Maggie Cline returns to Pastor's bringing a rousing song called "Nothing's Too Good for the Irish." Kitty Noian, the singer of Irish ballads who came from London last week, is followed by the Fortesque sisters, who appear for the first time to-morrow. The remaining names are

first time to-morrow. The remaining names are Musical Dale, the Travelles, the Deforrests, the Marshes, the Albions, and Achew.

The newconers in Koster & Bial's bill are Amelia Glover, the skirt dancer, and McAvoy and May, a song and dance pair. The most prominent of the hold-overs is Paul Cinquevalli, the juggler. The living pictures that were produced for the first time last week, are to be continued, and Fresleric Remington's "The Last Stand" is to be accompanied by a volley of musketry that almost hides the troop of soldiers in smoke.

Stand" is to be accompanied by a volley of musketry that almost hides the troop of soldiers in smoke.

Employed at the Imperial Music Hall are the three lisekett brothers, Le Clair and Lestie, the Zamora family, the two Kidds, Dixon, Bowers, and Dixon, and Felix and Cain. The spectacular burlesque, "Old Age and Youth, "is retained, and Dorothy Brew and Alberta Crawford figure in it conspicuously.

The company of burlesquers and specialists that last week held Miner's Howery move up to the Eighth Avenus to-morrow. The Washburn are its chief performers.

In tarr and Jordan, Miner's Bowery has two vocalists who are much above the average of variety shows, and in the two American Mass a pair who produce a deal of fun by knocking each other about the stage. The other names it, the rester are Banetto and Ganton. John World, Sam and Kitty Morton, Ranch and Kennedy, the National tries, and John White with a music circus.

the Madison Square Amphitheatre, with variethe Madison Square Amphitheatre, with variety performances on three stages.

The musical circles of East Fourteenth street
will be delighted to learn that the rooster orchestra, all union musicians, has been retained
at Huber's Museum. Jo-Jo, the dog-faced; Loto, who dances upon glass, and the Turtle Boyare on liand to delight the weary mind, and
"Humpty Dumpty Up to Date" is played in the
connecting theatre.

There will be six nights and forty-two matinées of "Pat's Luck; or, The Boy Miner," at
Doris's Museum this week, with Fanny Herring cast for the hero. The clastic skin woman,
the human pincushion, and Claw Hammer Gus
are among the famed ones of the freak collection.

Several of the current plays have been overhauled, and, to that extent, will be new as seen this week. In "Gismonda" at the Fifth Av-

enue Fanny Davenport may be considered sacrilegious in tampering with a Sardou play, but in this case eight minutes of explanatory matter has been cut out of the first act, to the marked improvement of the entertainment, letting the

final curtain fall at 11 o'clock.

A considerable alteration will be shown in "Prince Ananias" at the Broadway. Jessie Bartlett Davis now assumes the part of a boy, a comic scene has been interpolated for Mr. Barnabee, the band of strolling players are meant to be more characteristic than heretofore, and songs are added for Mr. Cowles and others. These promise a marked improvement in the already picasant entertainment. "Mme. Sans Gene" will get to the Broadway on Jan. 14. Four feminine dancers, described by the management as young and shapely, are to be introduced in "Rob Roy" at the Herald Square. Mr. DeKoven has composed the music for a Highland fing, and it is in plaids that the quartet will be nimble. Another promise from this theatre is that on Jan. 11, to emphasize the hundredth time of the comic opera, notable fine souvenirs will be given away.

The fresh element to be thrown into "Christopher Columbus" is a troupe of Spanish troubadours called the Tortajadas. They are placed in the first act and again in the Midway Plaisance scene. Several changes are promised in the living pictures. Souvenirs are to be distributed at the Garden New Year's eve to mark the hundredth performance of the burlesque, which bids fair to stay until the end of the season, although a successor has been chosen.

A new edition of "The Country Sport" goes to the Bijou, where it was first made familiar to us. If Peter F. Dalley and May Irwin impart as much of original flavor to their fun as they did before, and sing the new songs with the old unction, the entertainment is bound to be worth buying. Ada Lewis is retained for the sake of the "tough girl," whom she abducted from Harrigan's.

Some of the plays seem to require no amendments in order to maintain their prosperity, such a one is "A Milk White Flaz" at Hoy'ts. Neither in the actors nor the specialites is any change to be made for a while. Mr. Hoy't has come back to town from a visit to "A Hlack Sheep," which while on a tour is being built up after its author's usual process. Eventually it will get to New York.

The sensations imparted to the audiences at the Academy of Music by "The Cotion Kin Bartlett Davis now assumes the part of a boy, a comic scene has been interpolated for Mr.

lar London melodrama called "Humanity" will succeed it.

The aerial ballet, the singing moon, and the street band have overtopped the other ingredients of "The Brownies" at the Fourteenth atreet. The piece, besides exploiting Palmer Cox's familiar imps, is a full and various extravaganza, in which no great proportion of the nonsense miscarries, and in which many really bright things are done. Next at this house is to be Jerome Eddy's "The Village Post Office."

The man who lies to his mother-in-law and makes her believe him is no new comic fellow on the stage, but William Gillette gives original characteristics to him in "Too Much Johnson" at the Standard, polishes his mendacity, refrigerates his audacity, and makes folks laugh at him. The finding of that farce in a minor Paris theatre was like picking up a rough diamond in the street, and the American cutting of it has developed a brilliant.

ONE WOMAN'S WEAKNESS. Proof Against Ordinary Feminine Terrors One Thing Made Her Faint.

"The other day I witnessed a strange scene is an office not far from Madison square," said a New York man. "I had dropped in to see my friend, the lawyer, and was waiting for him to entered into conversation with his private sec retary, an extremely ciever young woman. knew her pretty well, and had often admired her brightness and solf possession. She is an excellent type of the independent American girl, well mannered, self confident, and well read. She has perfect health and good looks. I never knew her to have an ache of any kind. Her head is always clear as a bell, and her eyes rival plate mirrors in brightness. In these days, when every other woman one meets talks of nerves and neurosis is the most profitable specialty physicians have, a woman of this kind is a marvel.

rival plate mirrors in brightness. In these days, when every other woman one meets talks of nerves and neurosis is the most profitable specialty physicians have, a woman of this kind is a marvel.

"Well, I was talking to her when the door opened and a middle-aged man came in. The visitor was a striking-looking man. He was rather delicate, his frame being slight and his clothes hanging loosely upon him. His face was extremely pale, and his dark eyes looked preternaturally bright and keen. He was dressed with great care, and was deliberate in his movements. He bowed very politely to Miss Biank, and inquired for her employer. Upon being told that he was busy he sat down beside her and began talking to her.

"He was a very bright and witty conversationalist, and I could not help being interested in him. Then I noticed a marveilous change in Miss Blank. The color had faded out of her cheeks and a reimarkable pallor had overspread them. Her eyes were fastened on the face of the man with startling intentness. It appeared to me as if she were under the spell of some strange power that fascinated and absorbed her. I caught sight of one of her hands at the side of the desk and as withat the fingers were twitching spasmodically as she grasped at the frame as if for support. Her tongue, usually so much in command, seemed affected too, for her voice sounded strange and her speech was forced and mechanical. Her smiles, usually so winsome, were constrained and unpleasant to see. Perspiration appearance was aiarming.
"I could see that she was on the verge of collapse, and was only upheld by her will. I was frightened and panyled at once, and found myself wondering what! could do. Fortunately the door to my friend's private office opened at this moment, and his client came out. The strange man then weat in to talk to him, and closed the door to my friend's private office opened at this moment, and his client came out. The strange man then weat in to talk to him, and closed the object of the distored of the wind was a chair gasp

my friend.

"On, has that dreadful man gone? she asked.

"What do you mean. Simmons? asked the lawyer. 'What's the matter with him?"

"I don't know,' sile replied wearily, 'except that I can't look at him without growing ill and faint. If he had sat here another minute I should certainly have swoored,

"Well, that's strange,' said I. 'I never would have dreamed of your being subject to attacks of this sort. I have always imagined that you were proof against hysteria.

"She leaned her arms on the desk and clasped her head while we stood looking at her with amazement. Freesently she lifted her head and looked at us with a semblance of her old smile.

"You must admit, 'she said, 'I am not often silly. Well, I'll tell you about this and then you may call it hysteria or anything else. I assure you I am speaking the truth. I never have been subject to ordinary feminine fears, superstitions, or impressions, but have been a pretty clear-headed, sensible person; but when I see that man I realize that I am only a week woman, anyhow."

anyhow.'
"I can't for the life of me see what there is unpleasant about Simmons,' interrupted my

"I can't for the life of me see what there is unpleasant about Simmons, interrupted my friend.

"That's because you don't see what! do,' she replied, speaking very solemnly. 'I don't see an ordinary person when I look at him. It's always reminds me of a corpse.

"What? exclaimed my friend and I together.
"I assure you, she said, 'that man's face is a death's head to me, and I dan't see him without being reminded of coffin, winding sheets, and all that. When he talks I have the same sensation as if the mouth of a dead man were to open and his lips to move, while his words seem to come from far away. I am no believer in thoots, and do not think I would be frightened in a cametery at night, but I would not be alone in a room with that man for the greatest fortune in the world, and I never see him without being ill afterward. I am convinces that he won't live long, and yet I cannot tell why. It is lust as mysterious to me as it must appear to you, and yet it has always been so from the moment I first set eyes upon him. He is the only being that sever reminded me for a moment that I had nerves." It took her some time to recover her spirits. World, Sam and Kitty Morton, Ranch and Ken-nady, the National trie, and John White with a mule circus.

The Nuremberg Toy Fair is still running at clous, bright, and self-possessed as ever,

POEMS WORTH READING.

Ring Out, To Bella! Ring out, ye joyous New Year bells. Ring out the old, ring in the new! Each brasen throat triumphant swells. As if, old bells, twere much to you. This happy, merry, gladsome time, You're ringing in with joyful chine.

Perhaps 'tis so; so long you've hung. So long in that old steeple gray. Methinks each fron, clanging tongue le glad to tell its tale today.

Each ringing, swinging, tuneful bell

Its twelve months' tale would gladly tell.

A happy twelvemonth 'twas to some; Alas! that 'twas not so to all! But joy and grief alike must come, Into each life some rain must falt. Oh, tolling, rolling, heavy bells, How solemn sound your deep-toned knells:

You've rung for life, you've rung for death. The gladsome lay, and last and rite; You've sped the old year's parting breath, And welcomed oft the new year bright; But, oh, your maddest, blithest tune,

Your gayest, brightest, sweetest lay. You chime from June to sequent June, On ev'ry happy wedding day. Then trilling, thrilling, bilthely swells Your pean glad, oh, marriage bells! But, dear old bells, whate'er your song Though sad or merry be your lay, I've loved you well my whole life long. I'll love you till my dying day,

You rippling, rhythmic, dulcet bell Wherein a world of music dwells!

A Dream. Methought that in a dream mine eyes Beheld the gates of Paradise. There many knocked and were denied The city of the sanctifled. Who is the world had held high place: While others, scorned of men, found grace, and entered through the portals wide,

And one draw near with head held high Of manner stern and flashing eye, Who quick had passed within the gate Had not the guardian bid him walt. What claim hast thou to share the biles Questioned the keeper of the keys, Searching that soul's deep mysteries

With form and features glorifled,

Calm and serene the answer came As a reformer, ever sure
To make the streams of life run pure. Sin fell before my shining sword, and now I claim my just reward.

The scraph shook his shining head I dare not let you in," he said. You'd surely find ere half a year That much reform is needed here Streets bad! Style bad! Yes, you would say 'These angels are décolletés; The ancient stars are dim and dead, Let's hoist electric lights instead!" E. D. PIERSON

The Scarlet Tanager Witch of the Wood, to your sylvan dell I have followed and found you not, Where brooklets glisten and hilltops swell And the air seems a tinkling sliver bell Have I followed and found you not. I've traced your steps where the delicate grass In homage bows as you daintily pass, And the rich rose blushes a deeper red

As it treasures the kisses you softly shed. Coy in your secret, well bowered nest, You are resting secure, i know; With your velvety wings in graceful rest, Oh, wildwood bird that I love the best, And your singing is soft and low. My ears are deaf to the feathered throng That valuely seek to rival your song; and the forest to me seems only bright With the rays you flash in your rapid flight.

Song of the Foot,

Fersion from the French of Du Maurier. Poor Trilby, beautiful and good and dear! I am her foot. And who shall ever say: What friend, who cherished her so lately here. Has framed, with fond regret and love sin This relic, by caprice inspired one day, The next to fade away?

I was a twin. What is my stater's fate? But at the end of all, for which I wait, We two shall be united, though so late,
In that last rest, where no more pain can dark Through Trilby's sleeping heart.

Oh, tender friend, where wander you to-day?
The door is closed which Trilly often passed. And Paradise is very far away: and earth, to us so kind, to her so gay. Has not our peer. You may search far and fast.

The Blind Man.

Over the way a blind man dwells, And spreads his simple wares, and sells.

And all the neighbors pity him; Eut, sometimes when he comes to me To ask me of the things I see. Unknown within his world so dim,

I almost wish that I might go With him into that darkened land. The things that make me sorrow so.

A Poem to a Poet. William Hobensollern, the Post-Emperor

Oh, great and glorious William, And flatter with your smile A host of eager subjects, You cannot hope to be As Boss of Poetry.

Tis true your Song of Aegir Is beautiful in scene And language that is pleasing To high-class magazines;

It is not fine enough To shield you from such critics As wish to call it guff. They take you as a poet;

Imperial state to them Isn't in it with the greater And if you go to kicking, Or try to call them down, They'll laugh at you and tell you You're talking through your crown.

They are the tyrants, William, Whose sceptre is a pen, Far mightier than the swords are Of any sort of men. To them you are not ruler, But subject: and if they Jump on your Song of Aegir,

Just let them have their say. Lèse majesté is nothing; They do not care for that, When they have found a poem That's doubtful where it's at so, if you'd live in quiet, Let poetry alone. Confining your attention To holding down the throne

At Georgetown, S. C. At the old town of Georgetown In seventeen ninety two, G. Washington, first President, A good man and a true, the Winyah Indigo Hall Held a reception, and Gave to the people of Georgetown

At the old town of Georgetown In eighteen ninety four, G. Cloveland, last President, And very little more. In the Winrab indigo Rail Holds a reception, and Gives to the people of Georgetown His greetling and his hand

His greeting and his hand.

But friends and fellow citizens, it's a long long course to run, Setween the present incumbent and The late George Washington, zadaceadadadadadadabbbbbbbbbbbbb

The highest honor has been awarded to Cleveland's Baking Powder

American housewives for its superior purity, wholesomeness and economy.

QUESTIONS BY SUN READERS. It wasn't the end of "filling the ocean with ink, out we think that this is the last. It expands 8. E.

but we think that this is the last. It expands S. E. answer of last week.

The question of Mr. Burt (SUN, NOV. 25), as to the author of the lines "Could we withink, &c.," was an avered forty years ago by a Hebrew gentleman and scholar, Messes Margollouth of Cheshire, England. Be ascribes them to liabib Mayi-hen-issae, author of a beautiful Chaidean ade on the attributes of God, which is sung in every synagous on the day of Penterest. It embodies in four lines all the expressions of the ink and ocean, par binent, and heaven, stalks and quids, mankind, and scribes. &c. The ode lies before me as I write, in the original character, and M. Marzollouth rays that the eight English lines, as he gives them, are an almost literal rendering of the Chaldaic four.

Rabbi Mayir ben-Isanc appears to have flourished before A. L. 700, and therefore antesiates in Mohammedian era, and, of course, the Korah. The Korah version of the cost to which one of your constitute the works of my Lord would fall: atthough the added another sea into it, as a further supply." Al Koran, chap, avil, "The Cave."—Sale's transation.

If you care to have it, Irscal from memory a specimen of the rabbi's hyperbolic style, which appears some sightly years ago in the Analectic Maynerie. Philadelphia (1812 to 1816), inspired, however, by a much less forty theme:

"Likes TO A FRETTI LITHE MAID.

"LINES TO A PRETTY LETTLE MAIL LIMES TO A PRETTY LETTLE MAIL

I Black Sea, White Sea, Red Sea ran
One tide of link to Ispahan;
If all the grees in Lincoln fens
Produced apontaneous, well-made pens:
If Holiand old and Holland new,
One wondrous sheet of paper grew,
Could I, by stenographic power,
Write twenty libraries in one hour,
And If I sang but half the grace
Of half a freckle on thy face,
Each ayllande I wrote should reach
From Inverness to Bognor's beach,
Each hair stroke be a river Rhine,
Each verse an Equinoctial Line.

STERLE PREN.

1. What is the salary of a United States Consul to any of the minor places, say Plymouth, England, if one is located there? 2. How many representatives are there of this country in England, Scotland, Ireland, and Wales, and at what towns and cities are they located? 3. loses this Government pay their passage and that of their families to their destinations? 4. Does it find them house and offices, or do they have to pay this expense from their salaries? 5. In a cities and salaries and the salaries of the part of the salaries of the pay the salaries of the pay the salaries of the salaries? 5. In a cities of the salaries of the salaries? 5. The salaries of the salaries of the salaries? 5. The salaries of the salaries of the salaries? 5. The salaries of the salaries of the salaries? 5. The salaries of the salaries of the salaries? 5. The salaries of the

1. The Consul at Plymouth is paid by fees, but about Great Britain and Ireland. S. No. 4. It allows certain sums for the rent of Consular offices, &c. 5. Legally he should not, but it is said that arrangements are made by which the Consul takes about half of the "outside fees" of the office: that is that though he turns over to the Governmen, the fees which come to him as Consul, he takes half of the fees which his no tary, &c., get. It is said that the Consulate-General a London is worth about \$30,000 beyond the salary o \$5,000, although the Consular fees are turned into the Treasury. 6. We suppose monthly, by check. 7. He may draw two months' pay in advance, we believe He cannot; and he must pay regular rates of fare, unless he can beat the companies down a bit.

Why are Stock Exchange brokers called bulls and bears; when were these names first applied to them J. E. M.

Stock brokers are not called bulls and bears be cause they're brokers—or at least, not necessarily. But a "bezr" is a person who tries, for the time being, to force down the price of a stock, to bear it down; a "bull" tries to keep the price up, or to raise It higher Bartlett quotes from Dr. Warton, who wrote in 1756 " He who sells that of which he is not possessed is proverbially said to sell the skin before he has caught the bear. It was the practice of stock jobbers, in the year bear. It was the practice of slock jobbers, in the year 1720, to contract for transferring South Sea stock at a future time for a certain price; but he who contrasted to sell had frequently no slock to transfer. The seller was therefore called a hear, in allusion to the provart, and the buyer a bull, perhaps only as a similar dis-tinction." Naturally, the jobber who had to sell stock that he did not own was interested in having its price fall below his selling price, so that he might buy cheap and sell deer, and naturally the buyer wanted the and sell dear; and naturally the buyer wanted the price to rise, so that he could buy at a price lower

What is the difference in treatment on Blackwell's Island of mere paupers and criminals. V. Also between the steerage passengers and first and second-class cabin passengers?
 J. R.
 Criminals wear striped clothes and are in the

penitentiary; workhouse inmates wear a uniform not striped, however; and the paupers live in the almshouse, wear regulation clothes, and take care of themselves without being treated as under guard. There is an amusement hall for the almahouse people, mmodations and service; the second-class passen gers on some vessels simply have less convenient ous but otherwise fare like the first-class; or passengers bring their own bedding and table uten sils, sleep in one or two big rooms not divided into staterooms, and are restricted to certain less choice parts of the vessel.

 Is it definitely known when London was founded? If so, by whom?
 Is there any good, sensible reason why second cousins, whose nearest common relative was their great-grandfather, should not marry each other?
 In other words, would you advise such a Ractition. Do you want the name of the founder of London, or the name of some person who knows the name of the founder? However, it makes little difference. which you want, for the founder is not definitely known, so the other person's name can't be given either. The first mention of London, however, is it

Tacitus, who speaks of it as undergoing capture by cadtees A.D. 61. 2. There is no reason. Go ahea and marry your second cousin, if you love her and she Is there such a word as "gilly" or "gilley" I can't find it in any dictionary, though it is more or less frequently used.

frequently used.

There is a good Scotch word "gille," meaning "boy," or more especially, an outdoor attendant. Perhaps the word that you ask about, which is common as a term of slight contempt, comes from the Scotch "gillie," an outdoor attendant must cut rather a poor figure in indoor circumstances. We think that a parallel use of a word is that of "clown" for countries.

I am desirous of obtaining some kind of a clerical position on board one of our naval vessels. Will you advise me what positions there are, and how must i go about it to obtain one? The cierical positions open to enlisted men on a war vesset are five—those of Paymaster's Yeoman. En gineer's Yeoman (the pay being \$50 a month); Ship's Writer, Schoolmaster (the pay being \$45 a month), and Ship's Printer (with pay at \$40 a month). You can enlist in the New York Navy Yard in Brooklyn.

Would you kindly inform me if, in 1888, there were not 1,000 or more persons registered from the Thirty-second Election district of the Twenty-second Assembly? If not was there such a large registration from any election district that year? W. M. There were 1,017 registered votes in that district in 1888. It was in reference to this election district that year? I have the district in the second by the sec Justice liarrets decided that no votes could be re-

Can a man who has invented an article have it secured a short time for a small sum of money before he takes out a patent in full?

8. Hawwx. For a fee of \$10 he can file a "caveat" on his invention, which is good for one year, during which time he may go on with his invention, perfecting it and get-ting it into shape. The "cavest" protects him for a year; to get it, consult a patent lawyer.

Kindly give me the author of a reliable history of Scotland.

Charles Kendall Adams says that Dr. John Hill Bur-ton's 5-volums "History of Scotland" has superseded all other histories. Charles Scribner's Sons import it. and the list price is \$15.

What is the distance from Plymouth to London and from Liverpool to London) R. R. Plymouth is 190 miles from London, and Liverpool 202 miles from London.

What is a "trunk line," as the term is applied to a The main line, from which branches diverge. The idea came from a tree. 4. H. Stock-The area of New York State is 47,170 square miles; that of Kansas, 88,000 square miles.

Maude C. C.-We think you can safely address the Secretary of the society you name at Albany, N.Y. There is some such society as that which you describe in Albany, but its exact name we do not know. Charles Grimm.-Gov. Hill was elected to the Senate

in January, 1891, by a majority of two voice. The Republicans had a majority of six in the Senate, the Damocrats one of eight in the Assembly. Mr. Hill was slocted fovernor for the labest time in 1888, Mr. Flower was elected in 1891, and Mr. Morton in 1894.

FOREIGN NOTES OF REAL INTEREST.

Some of the London papers are getting ready to pub-lish an early edition which may reach all important places in the provinces in time for breakfast. Trade between France and Algeria, which in 1830 amounted to 12,000,000 france and in 1850 to 74,000,

000, had risen to 448,000,000 france in 1893.

The Duke of Argyle is engaged to be married again ecording to the Realm, of watch Lady Colin Campbell is editor, this time to a canon's daughter. His late wife was the daughter of a Bishop. In a murder trial at Disseldorf lately the jury, after being locked up, made its way out through a win-

dow and went to a beer saloon, where it agreed on a verdict. The result is an appeal for a new trial. At the 100th performance of Wagner's "Meister-singer" at the Berlin Opera House, which occurred recently, Horr Betz, the Hans Suchs, was the only mem-

ber left of the cast of the opera when it was given for the first time in 1870. Golf, in the report of the Chinese officials sent to investigate the game as it has been taken up by the English communities in China, is the chase of a little magic bullet with clubs. The bullet, when the players get power over it, disappears into a small hole. Ristori's son, Marchese Giorgio Capranica del Grillo, was recently married at Romo. It is twenty years now since the actress, who is 74 years old, withdrew

from the stage, though she has occasionally reap peared to perform Lady Macheth.
In six months of bull fights this year in Madrid
alone, twelve men were dangerously wounded and two
killed, one of them the famous expeds Espartero. During the same period four other bull-fighters were

killed at Soville and other cities.

Hehanzin, the King of Dahomey, who is impriso in Martinique, was in great terror when he heard of President Carnot's death. He expected the French to follow the custom of Dahomey and put him and his wives to death, with all other prisoners, for the inaugural of the new President.

In Roumania it is a common superstition that if the clay figure of a child be thrown into the water it will bring rain. Two boys of Bucharest recently, one 6. the other 14, determined to put an end to the drought and, having no clay figure, drowned a smaller child of two years. The older boy was sent to prison.

In fitting the wires for electric lights in the hall of the Middle Temple in London recently, the workmen came on a box in a recess of the wail near the roof, which contained a skeleton in a perfect state of preservation, but from its appearance at least 200 years old. It has not yet been accounted for.

A son of Sir James Fergusson, Bart, M. P. Postmaster
General in the Marquis of Salisbury's hast Govern

ment, was sent to jall for a year lately for setting fire twice to the school buildings at Gien Almond, where he was studying. The boy, who is 16, pleaded guilty, but his counsel tried to have him let off on the ground

of arrested mental development.

Mascagni has an original opening for "Ratcliff,", which is to have its first performance on any stage at Berlin soon. Two taps are heard behind the scene, the curtain goes up, and shows the crary nurse of the heroine gazing into space throughout the whole over ture. This glides without a break into her song, as in Wagner's "Flying Dutchman."

Every man has his price in England, as is shown by

an advertisement that appeared recently in a news-paper, which read: "A beautiful boy for adoption, Gentleman going abroad. Would give his boy to lady or gentleman for the sum of gloo." The Society for the Prevention of Cruelty to Children investigated the matter, and found that a farmer who had lost his wife and intended to emigrate was actually trying to dispose of his child. Here is a Japanese student's idea of an English love

poem, from a university magazine in Tokyo: "The purest flame, the hottest heat, Is woman's power over earth, Which mighty black and paie down beat, And made the Eden, place of birth.

"Of what? Of what? Canst thou tell fine?
A birth of noble, high value—
The station is designed for thee—
Of woman, mother, social glue."
At Essen, Germany, in the archives of the Münsterkirche, a manuscript of the Psaims has been discovered, which, if it belongs, as is believed, to the middle of the ninth century, is the oldest Latin version of the Psalms we have. It contains nearly all the Psalms in Latin in three columns, while in the fourth column is a Greek text written in Latin characters. The manu script seems to be written by the school of scriber

established by Charlemagne.
Sarah Bernhardt has made a public declaration of her religious faith. She volunteered her assistance for a performance given by a Catholic students' club to obtain money for the public soup kitchens, where-upon La Libre Facole attacked the club for allowing a Jewess to aid a Christian charity. The President declared that, while the club was ready to receive aid Mme. Bernhardt was a Catholic. She then stated that she was brought up in a convent at Grandchamp, that she was baptized there, and took the first communion

At Gaibanella, near Ferrara in Northern Italy, recently a band of fifteen armed men in broad daylight took possession of the village, and stationing men at either end of the one street to keep away assistance, attacked a tobacconist's shop. The tobacconist bar ricaded himself and returned the fire for nearly an hour, when the carbineers, who were summoned by the sexton's frantic ringing of the church bell, made their appearance and drove off the assaliants. After the raid in broad daylight made recently on the Sar-dinian town of Tortoli the chief of the brigands was shot while retreating by the carbineers, and beleaded by his companions to prevent recognition. He now turns out to have been the parish priest of a neigh

boring village.

At Fuchsmuchle, a village in Bavaria, a dispute over commercial rights recently brought on a conflict be-tween the peasants and the military authorities in which two peasants were killed and many wounded. From time immemorial the villagers had been allowed to take their wood from the land belonging to the lord of the manor; but when the estate lately passed to a new proprietor he refused to continue the privilege or recognize their rights, and an appeal to the courts resulted in a decision in his favor. Thereupon the whole village, men, women, and children, marched in a body to the woods, armed with saws and axes. and began to cut it down. The civil authorities, find-ing themselves powerless, called in the help of the nearest garrison, who drove out the peasants with

great violence, though they gave up all resistance when the soldiers appeared. M. de la Kéthulle de Ryhove, a Belgian carbineer officer in the service of the Congo State, has just completed an important exploration into an unknown part of Africa. Starting from the Ubangi-Uelli River and establishing posts as he proceeded, he first followed to its sources the river Chinko, where he found the Suitan Rafay, one of the most powerful chiefs of the Niam Niama, who had formerly served under Lup-ten Bey, Governor for Egypt of the Bahrel-Ghazal province. With him he formed an alliance and, aided by him, crossed the watershed that divides the Congo from the Nile, and established a post at Hoffrah-en-Nahas, the city of copper noted for its mines, and aituated north of 9° north latitude, 400 miles north of the Uelle. He was in a region where no European had penetrated before, and with the help of native cara-vans which was offered him night have pinned the Belgian flag on the shores of Lake Tehad. He had reached, however, the boundary established by the convention with England made last May and since abandoned, and felt onliged to turn back.

Following close upon the violent death of his heir, Viscount Drumlanrig, comes a decree of divorce against the Marquis of Queensberry in favor of his second wife, whom he married only a year ago. De evidence had to be heard in camera, and the marriage was declared null and void ub taillo on statutory grounds, heven years and the first wife of the Mar-quis, who had borne him five children, obtained a divorce from him on the ground of adultery. The Marquis is only 50; he has made himself notorious for his free thinking views, which made the Scottish peers as tree times when we were the contral perse refuse to recieve him as their representative in the House of Lords, and led him to create a disturbance at the first performance of Tennyson's "lecket" a few years ago. The Marquis's fisher, the seventh Mar-quis the author of the famous "Queensierry Buies," was killed by the accidental discharge of his gun, offer meeting with heavy losses on the turf. Viscount after meeting with heavy losses on the turt. Viscount brunianrig, who has just me with a similar accident, it is hinted had been persecuted, since the recent announcement of his engagement, by women whom he had previously known. The Marquis's brother, Lord Francis Lougias, was killed in trying to alimb the Matterborn in 1865; another brother, Lord Archibald Dougias, a Catholic priest, is now prominent befores the English public on account of the inent before the English public on account of the insent before the English public on account of the charges of crusi treatment which he has brought against the managers of a reformatory for tops. A sister, Lady therrune boughts, became so interested in philanthropic work that she married a working baker, while another sister, Lady Florence Disk, was the victim of an attempted measuration conspiracy in 1881, which turned out to be the product of her swn imagifation.

The record of accidents through the careless use of firearms this season is very much in excess of former years. The accidents are confined to any particular part of the Union. East and West have contributed equally. That only one man should have been killed during the recent deer-hunting season on Long Island upsets the theory of chances. Instead of one, at least ten killed or wounded would have been least ten killed or wounded would have been only a fair proportion, considering the excitable and reckless men who took part in the hunting. The most unpardonable instance was that which occurred at a trap-shooting match at New Brunswick, N. J., on Thanksgiving Day. In this case, through the premature discharge of a gun in the hands of a gunner at the traps one man was killed and two wounded among the spectators in the rear. The explanation given of this accident was that the owner or user of the gun, which was of the hunmier variety, snapped down the barrels toward the breach instead of bringing the breach up toward the barrels in the act of closing the gun. This, however, does not explain why the trap shooter should have considered it necessary to point the weapon in the direction of the spectators.

GAME AND FISH NOTES.

Attention has been called to the presence of canvasback ducks near and about Fire Island. Inlet on Long Island. Some of the oldest bay men thereabouts according to reports in the newspapers, do not recall having seen these birds in the Great South Bay ever before. While this may be true as regards the immediate vicinity of Fire Island, many canvasbacks are killed almost every season in the East
Bay, a continuation of the Great South Ray,
about twenty-five miles from Fire Island. Three
or four years ago when the celery beds of the
Susquelanna flats were covered with sand
from the exceptional freshets in that river,
and were thus rendered useless as feeding
grounds for canvasbacks, a body of three
or four thousand of these ducks remained
all winter in the East Bay, which was almost
continuously open. Few were killed, as the use
of batteries is prohibited there, it is a mistaken
idea that the canvasback duck feeds exclusively
on wild celegy or wild rice. In the absence of
either of these it contents tiself with the crustace found in brackish or fresh water.
With such food its edible qualities are no better
than those of any other of the diving species.
The best canvasback shooting this season is
found in Corpus Christi Bay, Texas.

Wildshe food terms and the contents of the season is
found in Corpus Christi Bay, Texas. are killed almost every season in the East

Within a few years a new form of amusement has arisen which has given to those who follow it much of the pleasure afforded by the sports of the field without the reproach of inflicting pain or injury upon the objects of their pursuit. This is the pursuit of those amateur photographers who, equipped with a camera, have developed all the skill of the hunter in tracking to the depths of the woods, in the open or upon the mountains, large and small game, and have secured the most accurate records of their form and movements. The patience and perseverance which have been essential in procuring these photographic reproductions will in the future be no longer essential, if all that is claimed for a recent invention is verified in actual practice. This invention is an attachment to the camera, which, it is claimed, enables the operator to transfer the image to the sensitive plate with distinctness and fulness of detail at the distance of half a mile, more or less. If this invention is a success the field of the photographic reproduction of the forms and movements of wild animal and bird life will be greatly enlarged, and results far in advance of those heretofore obtained may be hoped for. This long-distance attachment to the camera will be of especial value in recording the varied positions of the wings of birds in flight. mountains, large and small game, and have se-

For amateurs and others interested in the varieties of bird life to be found within fifty miles of New York, a guide has been prepared by Mr. Chapman, assistant curator of the Department of Mammalogy and Ornithology of the Museum of Natural History in this city. It will be a surprise to many to learn how largely bird life is represented within so limited a distance of a city of the size of New York, and in a territory so densely populated. The species number 348, consisting of 35 permanent residents, 92 summer residents, 18 summer visitants, 36 winter residents, 16 winter visitants, 82 regular transient visitants, 30 irregular transient visitants, and 39 accidental visitants, The presence of so many species with In the limits mentioned is largely due to the fact that the coast line and the Hudson River Valley are natural routes of migration twice yearly. Another reason for this abundance of bird life is that the country about New York is a sort of central strip. "In other words," Mr. Chapman says, "we have here on the one hand a number of birds which are found no further north, and on the other species which are found no further south." Even under such favorable circumstances it is observable that with each succeeding year, within the range recorded, the number of each of the species is on the decrease. number 348, consisting of 35 permanent resi-

In Germany most of the inland waters, which are well stocked with fish, are held by proprietors whose tenure is exclusive. One such lake at Tegensee, in Bavaria, is owned by Duke Theodor in Bavaria. Any person may fish in this lake upon the payment of a license fee and so much a pound for the fish taken. This latter condition is one which might be adopted with advantage by game and fish clubs here. To the members of such clubs annual assessments to make good deficiencies of revenue are by no means unfamiliar. These assessments are due mainly to an excessive allowance of game or fish to each gun or rod. Under these conditions the depletion of preserves, ponds, or streams is beyond their capacity of recuperation. If the system pursued in Germany was applied and each member was obliged to pay so much a pound or a head for fish taken or game killed, it would inspire conservatism and probably obviate the necessity of assessments. That this is by no means a chimerical suggestion is proved by a case in this country where this system is applied with thobest results. The Jeyki Island Club in Georgia, one of the best and most powerful of the game preserve organizations of this country, provides in one of its rules that, "all game killed shall be turned over to the club, but members or guests shall have the first right, after the requirements of the club are provided for, to buy a portion of their shooting, at prices fixed by the club." This is in addition to annual dues and maintenance at the club house during the stay of a member.

To the numerous anglers who have visited this lake upon the payment of a license fee and

To the numerous anglers who have visited angling with rod and line from the many bridges and quays of the Seine, and are familiar with the wild enthusiasm aroused by catching one little gudgeon, the following story which comes from France, may not be devoid of interest. It appears that during the many years that a certain fishing club has held angling rights in a stream near Paris the taking of a single fish a stream near Paris the taking of a single fish was not recorded until recently. A few months ago it was discovered that a solitary barbei inhabited the river. The fish was carefully located and gratings were placed above and below, confining it within close limits. All the members of the club were notined and active angling ensued. As soon as one angler took the barbeilit was returned to the water, to give an opportunity to the other competitors. In this way the fish was taken many times, some members cauturing it more than once. In the end the barbei died of exhaustion, and with its death the piscine resources of the club's river came to an end. From ancient files of The Sex this story may be exhumed by anglers of the future who through the unchecked depletion of our streams may meet with a similar experience.

What is announced as a very important meeting of the New York State Association for the Protection of Fish and Game will be held in Syracuse on Jan. 10. The purpose of the meeting is the presentation of new and vital subjects in relation to the protection of fish and game and the consideration of proposed amendments to the Code, which, at the time of its enactment, was thought to accomplish all that was necessary for the preservation of the game and fish of the State. At every session of the Legislature since the enactment of the Code it has been tinkered in this or that interest, until a few more annual changes will involve the laws for the protection of fish and game in the same inextricable confusion as formerly existed. Among other amendments which will be proposed is one suggesting that the State be divided into three districts, with a special code for each. Long Island has now a law applicable to itself which permits the sale of certain game in the markets of Brooklyn, while it is prohibited inthose of New York With three other special codes in operation anglers and place that department under a single head, with power to select game and fish wardens aside from political considerations. the State. At every session of the Legislature

The Maine Sportsmen's Fish and tiame Asso ciation is agitating a change in the laws re-isting to fish and game in that State. It sug-gests that it shall be made unlawful to kill a cow moose at any time or a moose without horns cow moose at any time or a moose without horns or a spike-horn moose. Increased penalties for violations of the game laws, and heavier penalties against the dogging of deer are also arged. The association also atogets that the amount of salmon or trout to be taken by any one angier be reduced from fifty following diversioneds, and that each minter be restricted to the adding of one build most, one buck deer, and one doe. It is estimated that the normal number of deer in Maine amounts to 21,000. Of these about 5,000 are killed each year. With a trile more protection it is estimated that the increase in the aumber of deer will be gradual and certain.

NOTES ON SCIENCE AND INDUSTRY. It is predicted by a writer in the London Economist that Canada will eventually control the shipbuilding industry, and this from a remarkable fact of only recent realization. It is now practically proved, he argues, that steel mixed with from three to five per cent. of nickel is double the strength of ordinary steel, and as it does not corrode or take on barnacles, ships constructed of it will possess the very great advantage of never requiring to be scraped. Moreover, as ships of nickel—atest may safely be built much lighter than ordinary steel ships, their engine power and consumption of coal may be safely reduced without diminution of speed. In short, according to this writer, such steel seems bound to supersede the ordinary article, and probably also all other materials in present use in ship construction; and this being the case, the nation which is in a position to produce this metal must necessarily control the shipbuilding industry. For the present, at least, there is no considerable supply of nickel outside of Canada, which in fact possesses nickeliferous pyrites without limit, the entire bleak region extending from lake Superior to Labrador being rich in it. It is remarkable indeed, but it is declared by experts that the Dominion can supply a million tons of the pure metal annually, if necessary, for an indefinite period.

The plan which has for some time past been under way in Russia of introducing metal sleep-ers upon all the railways in that country is regarded with no little interest there and else-where, as indicating a decided advance in engiwhere, as indicating a decided advance in engineering enterprise. An experiment in this line a white ago with sleepers of native make was in most respects satisfactory, the only drawback in fact being the cost involved. The plan has latterly, however, been resumed upon quite an extensive scale, and contracts have accordingly been placed by the Government with native makers for a large supply. It is believed that if the trais should result in a general adoption of metal sleepers an enormous impetus will be given to Russian metaliurgical industry, as some thirteen million out of sixty million wooden sleepers are now yearly renewed.

For coloring iron and steel a dead black of sue perfor appearance and permanency the right article has long been sought, and, to meet this want, M. Mazure now proposes a fluid, of which the following is the formula: One part bismuth chloride, two parts mercury bichloride, one parts copper chloride, six parts hydrochloric acid, five parts alcohol, and fifty parts water, these being parts alcohol, and fifty parts water, these being of course well mixed. To use this preparation auccessfully—the article to be blacked or bronned being first made clean and free from grease—it is applied with a swab or brush, or, better still, the object may be dipped into fir the liquid is allowed to dry on the metal, and the latter is then placed in boiling water, the temperature being maintained for half an hour. If, after this, the color is not so dark as is desired for the purpose, the operation is simply to be repeated, and the result is in the highest degree satisfactory. After obtaining the desired degree of color the latter is fixed as well as much improved generally by placing for a few minutes in a bath of boiling oil, or by coating the surface with oil and heating the object until the oil is completely driven off. The intense black attained by this casy method is said to be admirable.

A recent improvement in the construction of warp knitting machines is likely to be regarded with considerable favor—its practicability, at least, being no slight consideration in its behalf—consisting simply in the application of tension rollers mounted on the traverse carriages of rollers mounted on the traverse carriages of the machine; that is, the threads are caused to pass from the ordinary bobbin on the traverse carriages of the machine beneath the tension roller, which is of such a weight as to be raised by the threads which pass underneath it. On the frame of the traverse carriages are formed arms or brackets which are provided with slots, and act as supports for the tension rollers, allowing them to be suddenly raised as the threads are drawn on the needles, and then to remain temporarily suspended on the threads for the purpose of taking up the looseness of the latter. Thus the irregular impulses given to the threads are compensated by the tension roller instead of occasioning sudden, intermittent drawing off from the bobbins.

A very notable achievement in metal working processes was announced lately by the velocipede car company of Three Rivers, Mich., in the production of the wheels for handcars from a sinduction of the wheels for handcars from a single sheet of steel, thus greatly simplifying the operation, with decided advantages in the result. A sheet of proper thickness to insure sufficient strength is sheared to circular shape, and, passing through a series of formative processes, is brought to the desired shape, the centre being corrugated for the purpose of securing increased stiffness. A hub, drop forged from a single piece of toughened steel, is then riveted in place, which operation completes the wheel. The result is a whiel of exceptional lightness, as well as strength, and a distinct addition to the articles made-in this line.

It is asserted that by the new, or Dalzel, process of treating steel, any of the ordinary steels of the usual lengths and shapes for making tools, punches, and dies will, when treated, become so soft as to effect a very material saving in the cost of producing the desired tool. After having been softened and cut to the required

published in the foreign journals, would seem published in the foreign journals, would seem likely to create a decided departure from the usual routine of the coke-making industry. It is described as a reverberating furnace, capable of presuming coke from a coal very much inferior in quality to what has generally been used for the purpose, and, in the matter of cost, the new method is said to show an economy of fifty cents per ton as compared with the cost required by ordinary means. Some of the largest and most important colliery companies, it is said, are laying down these new furnaces.

In some of the large business and manufacturing establishments in Boston there has lately been introduced a system of furnaces for sta tionary boilers which, it is claimed, goes far toward solving the problem of securing nearly, if not quite, complete combustion and an almost imperceptible amount of smoke. The arrangement is based on the principle set forth by Charles Wye Williams, the extert, that in the action of the furnace about one hundred and fifty cubic feet of air at attor-pheric temperature are the absolute equivalents for the combustion of one pound of coal one-third, or fifty cubic feet, of which is taken up by the gas, and two-thirds, or one hundred cubic teet, by the coke, From this it follows that, or insure complete combustion and prevent smoke it is not only essential that there should be a good draught, as generally understood—that is, through the grates and up the chimney—but the gases arising from the imited coal must be supplied with oxygen from a source above the grates. To this end a number of jets of superheated ateam are introduced in the furnace over the fire, and with them is carried a supply of external air by induction, which is delivered in the midst of the combustible gases. The superheated steam is instantly converted into its eloments, oxygen and hydrogen, and with the air it has drawn into the furnace is intermingled with the combustible gases arising from the coal instring their combustion and effectively preventing smoke. imperceptible amount of smoke. The arrange-

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